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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,659	02/02/2007	Anthony McCormack	3700.P0412US	4367

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KALAMAZOO, MI 49008-1631

EXAMINER

FELTON, MICHAEL J

ART UNIT	PAPER NUMBER
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1791

MAIL DATE	DELIVERY MODE
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03/24/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/576,659

Applicant(s)

MCCORMACK ET AL.

Examiner

MICHAEL J. FELTON

Art Unit

1791

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 27-41 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1 and 27-41 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 20 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-850)
Paper No(s)/Mail Date 2/2/2007.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application.
6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 37 and 38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

4. In the instant application, claim 37 recites the broad recitation of "particle size between 2 mm and .15 mm" and the claim also recites "preferably between .6 mm and .212 mm" which is the narrower statement of the range/limitation. Claim 38 recites the

broad recitation of "10 mg and 150 mg of activated carbon" and the claim also recites "preferably between 30 mg and 60 mg" which is the narrower statement of the range/limitation.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 27-30, 32, 37-41 are rejected under 35 U.S.C. 102(b) as being anticipated by Keith II et al. (US 3,460,543).

7. Regarding claims 1, 27-30, 32, 37, and 38, Keith II et al. disclose a filter containing 100-120 mg of an activated carbon absorbent with a particle size of around 50 mesh (0.297 mm; col. 6, 55-62) that is impregnated with 1-13% copper and 1-13% molybdenum (col. 2, 40-55; col. 4, 1-50)

8. Regarding claim 39, col. 4, lines 1-10 indicate that in addition to the copper and molybdenum, other metals can also be used.

9. Regarding claim 40, Keith II et al. disclose that the adsorbent can also remove hydrogen sulfide (col. 3, 67-73).

10. Regarding claim 41, Keith II et al. disclose that the filter is added to a cigarette with a wrapper and tobacco rod (see example 3).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Keith II et al. (US 3,460,543) as applied to claim 1 above.

13. Keith II et al. do not disclose the claimed copper to molybdenum ratio but do disclose amount of copper from 1-13 % and amounts of molybdenum from 1-13 % (col. 4, 1-11).

14. It would have been obvious to one of ordinary skill in the art at the time of invention to vary the amounts of the copper and molybdenum within the ranges disclosed by Keith II et al. in order to optimize the performance of the filter because it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA).

15. Claims 33-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keith II et al. (US 3,460,543) as applied to claim 1 above and further in view of Crooks et al. (US 20050066980) or Frund (US 5,714,126).

16. Keith II et al. do not disclose carbon tetrachloride activity in the ranges instantly claimed. However, Crooks et al. disclose a cigarette filter that includes activated carbon that is impregnated with metals and the activated carbon has a carbon tetrachloride activity of 60-150 (claim 16). In addition, Frund discloses using activated carbon with a carbon tetrachloride activity of at least 95 (col. 2, line 6).

17. It would have been obvious to one of ordinary skill in the art at the time of invention to use activated carbon with higher carbon tetrachloride activity (as taught by Crooks et al. or Frund) with the filter disclosed by Keith II et al. because the references are analogous art and teach using impregnated activated carbon in gas filters to remove harmful substance. In addition, one of ordinary skill would understand that activated

carbon with a higher carbon tetrachloride activity would be able to absorb more unwanted compounds from smoke than activated carbon with a lower carbon tetrachloride activity.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL J. FELTON whose telephone number is (571)272-4805. The examiner can normally be reached on Monday to Friday, 7:30 AM to 4:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Phillip C. Tucker can be reached on 571-272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/M. J. F./
Examiner, Art Unit 1791

/Philip C Tucker/
Supervisory Patent Examiner, Art Unit 1791